

HOST PLANTS AND SEASONAL ABUNDANCE OF  
ADULT *CAPRAITA SUBVITTATA*  
(COLEOPTERA: CHRYSOMELIDAE: ALTICINAE)

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*Abstract.*—In central New York, adults of *Capraita subvittata* fed nocturnally on leaves of *Aster divaricatus*, *A. macrophyllus* and *Veronica officinalis*. Adults were active at least from early May to mid August, but no immature stages were found on or near the adult host plants at any time during this study. North American species of *Capraita* feed on hosts from at least 17 plant families.

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Adults of the flea beetle *Capraita subvittata* (Horn) (formerly in the genus *Oedionychis*; Blake, 1927) are 3–5 mm long, and tan or yellow brown with brown or black dorsal markings (Blake, 1927). During an herbivore removal experiment with *Aster divaricatus* L. (Asteraceae), I observed *C. subvittata* adults at night on plants in the forest understory.

#### METHODS

On 62 nights from 6 May to 18 August 1985, I counted all herbivorous insects and gastropods that I found between 2200 and 2400 h on 30 0.65-m<sup>2</sup> plots. The plots were established in early May on the first 30 clumps of *Aster divaricatus* I encountered along a transect running parallel to and 150 m upslope from the southwestern shore of Lake Myosotis in the E. N. Huyck Preserve in Rensselaerville, New York. On half of the plots, I removed the herbivores by hand (mammals were excluded by cages of 1-inch-mesh chicken wire). Within an hour after removal, representative individuals were placed singly into vials with undamaged leaves of *A. divaricatus*. Some individuals of *C. subvittata* were put into vials with undamaged leaves of *Veronica officinalis*

(Scrophulariaceae). The vials were checked the following morning for damage to the leaves and for accumulation of frass.

#### RESULTS AND DISCUSSION

Adult *C. subvittata* chewed rectangular or arc-shaped holes in the leaves of *A. divaricatus* and *V. officinalis*. Single beetles ate 10–30 mm<sup>2</sup> of leaf area during 8–10 h in a vial, probably less than what an undisturbed individual could eat in one night in the field.

Of the 118 *C. subvittata* adults seen at night, 114 were on *Aster divaricatus*, two were on *Veronica officinalis* L. (Scrophulariaceae), and two were on *Aster macrophyllus* L. The holes in *A. macrophyllus* leaves were indistinguishable from those produced by *C. subvittata* in the feeding trials.

Clearly, *Aster divaricatus* is the main host plant for adult *C. subvittata*, but not the only one. *Capraita subvittata* feeds on other asters, on Scrophulariaceae, and perhaps on Rosaceae (Table 1). In North America, the genus has been found on at least four superorders, 13 orders, 17 families and 22 genera of dicots (Table 1). Individual species of *Capraita* have 1–6 species of host plants used by adult beetles (Table 1). Larvae of *C. gibbitarsa* have been collected from mint,

Table 1. Plant hosts for adults of North American species of *Capraita*. USNM: United States National Museum; MCZ: Museum of Comparative Zoology, Harvard University. Plant superorders are from Stebbins (1974).

Host plant taxa	<i>Capraita</i>	Source
I. Asteridae—Asteraceae		
<i>Aster divaricatus</i>	<i>subvittata</i>	this study
<i>Aster macrophyllus</i>	<i>subvittata</i>	this study
Caprifoliaceae		
<i>Lonicera</i> sp.	<i>tenuilingata</i>	USNM
Oleaceae		
<i>Chionanthus virginicus</i>	<i>sexmaculata</i>	Wilcox, 1979
<i>Fraxinus</i> sp.	<i>sexmaculata</i>	Wilcox, 1979
Lamiaceae		
<i>Teucrium canadense</i>	<i>thymoides</i>	Wilcox, 1979
Verbenaceae		
<i>Verbena urticifolia</i>	<i>circumdata</i>	Wilcox, 1979
	<i>circumdata</i> eggs	Blake, 1927
Plantaginaceae		
<i>Plantago lanceolata</i>	<i>circumdata</i>	Wilcox, 1979
Convolvulaceae	<i>jacobiana</i>	USNM
Solanaceae	<i>petaurista</i>	USNM
Scrophulariaceae	<i>jacobiana</i>	USNM
<i>Dasistoma macrophylla</i>	<i>hornii</i>	USNM
<i>Mimulus ringens</i>	<i>subvittata</i>	Wilcox, 1979
<i>Veronica officinalis</i>	<i>subvittata</i>	this study
Bignoniaceae		
<i>Chilopsis linearis</i>	<i>durangoensis</i>	USNM
II. Rosidae—Rosaceae		
<i>Rubus</i> sp.	<i>circumdata</i>	Wilcox, 1979
<i>Amelanchier</i> flowers	<i>subvittata</i>	MCZ
Aquifoliaceae		
<i>Ilex glabra</i>	<i>suturalis</i>	Wilcox, 1979
<i>Ilex opaca</i>	<i>obsidiana</i>	Wilcox, 1979
<i>Ilex verticillata</i>	<i>obsidiana</i>	Wilcox, 1979
Celastraceae		
<i>Euonymus americanus</i>	<i>obsidiana</i>	Wilcox, 1979
Fabaceae	several spp.	USNM
Juglandaceae		
<i>Juglans cinerea</i>	<i>circumdata</i>	Wilcox, 1979
III. Hamamelidae—Fagaceae		
<i>Fagus grandifolia</i> young leaves	<i>circumdata</i>	Blake, 1927
<i>Quercus</i> spp.	<i>obsidiana</i>	Wilcox, 1979
	<i>quercata</i>	Blake, 1927
IV. Dilleniidae—Ericaceae	<i>suturalis</i>	Wilcox, 1979
	Florida spp.	Blake, 1927
<i>Vaccinium</i> sp.	<i>obsidiana</i>	Wilcox, 1979
	<i>circumdata</i>	Wilcox, 1979
<i>Vaccinium virgatum</i>	<i>obsidiana</i>	Wilcox, 1979

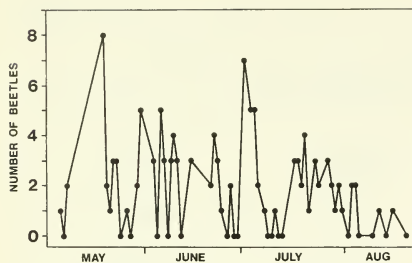


Fig. 1. Numbers of adult *Capraita subvittata* observed at night (2200–2400 h) on 30 0.65-m<sup>2</sup> plots between 6 May and 18 August, 1985, at the E. N. Huyck Preserve in Rensselaerville, New York.

but are otherwise poorly known (Blake, 1927).

The numbers of adult *C. subvittata* fluctuated widely between nights, but the range of variation was fairly steady through the sampling period until the numbers of adults declined in August (Fig. 1). I observed mating pairs of beetles on 10 and 11 June. Both observations were in the same plot, so it may have been the same pair both nights. I saw no eggs, larvae or pupae of *C. subvittata* on any plants at any time of day in these plots.

The duration of adult presence was longer for *C. subvittata* in this study than it was for univoltine chrysomelid species on *Sol-*

*idago* host plants in old fields (Messina and Root, 1980). Even so, no firm conclusion on voltinism of *C. subvittata* can be reached until more is known about its immature stages.

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